Amendment under 37 C.F.R. §1.111

Application No. 10/583,411

Art Unit: 3656

Attorney Docket No. 062654

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions of claims in the application.

Claim 1 (Canceled)

Claim 2 (Currently Amended): The ball spline according to Claim [[1]] 6, characterized

in that, regarding the pair of rows of balls rolling on the ball rolling faces situated on both sides

of each land part, the intersection of contact normals of the rows of balls with respect to the ball

rolling faces is situated on the outer side of the line connecting the centers of these rows of balls

with respect to the radial direction of the spline shaft.

Claim 3-5 (Canceled)

Claim 6 (New): A ball spline comprising:

a spline shaft having a substantially circular sectional configuration, and having in the

outer peripheral surface thereof a plurality of lines of longitudinally extending arcuate torque

transmission grooves arranged at equal intervals, with the ball rolling faces being formed on side

surfaces of land parts situated in between the torque transmission grooves, such that the ball

rolling faces are on both sides in the width direction of each torque transmission groove; and

a spline nut formed substantially as a cylinder with a hollow hole into which the spline

shaft is fitted, having on an inner peripheral surface of the hollow hole a plurality of lines of load

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rolling faces which are adjacent in the circumferential direction opposed to the ball rolling faces

of the spline shaft;

a large number of balls rolling while receiving a load in the load region formed whereby

the ball rolling faces of the spline shaft and the load rolling faces of the spline nut are opposed to

each other; and

the distance between a pair of rows of balls rolling on the ball rolling faces situated on

both sides of each of the land parts is set larger than the distance between a pair of rows of balls

rolling on the ball rolling faces on both sides of each of the torque transmission grooves.

Claim 7 (New): The ball spline according to claim 6, the groove walls on both sides in

the width direction of each torque transmission groove are substantially perpendicular to the

outer peripheral surface of the spline shaft, and at these positions, there are formed the ball

rolling faces.

Claim 8 (New): The ball spline according to claim 6, the contact normals of the balls

with respect to each ball rolling face of the spline shaft are set substantially perpendicular to the

radial direction of the spline shaft.

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